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FEDERAL COMMUNICATIONS COMMISSION
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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)	
	)	
Closed Captioning and	)	
Video Description	)	MM Docket No.
	)	95-176
of Video Programming	)	
	)	

NOTICE OF INQUIRY

COMMENTS OF **THE AMERICAN FOUNDATION FOR THE BLIND**
IN THE NOTICE OF INQUIRY REGARDING CLOSED CAPTIONING
AND VIDEO DESCRIPTION

To The Commission:

The American Foundation for the Blind (AFB) is pleased to respond to your request for comments in the "Notice of Inquiry", FCC 95-484, in the above-captioned proceeding, released December 4, 1995.

The Commission seeks to assess the current availability, cost, and uses of closed captioning and video description, and to assess what further Commission actions may be appropriate to promote these services. It also seeks comment on the appropriate means of promoting the services' wider use in programming delivered by television broadcasters, cable operators, and other video programming providers.

The mission of the American Foundation for the Blind is to enable persons who are blind or visually impaired to achieve equality of access and opportunity that will ensure freedom of choice in their lives. AFB accomplishes this mission by taking a national leadership role in the development and implementation of public policy and legislation, informational and educational programs, and quality services.

AFB is the leading organization in the country providing demographic and socioeconomic data on the blind and visually impaired population. We have long been interested in issues affecting access to media by this population. In recent years, as video description has become a viable option, AFB has taken a lead role in encouraging these services to thrive. In 1990, a meeting was coordinated by AFB to set up a dialogue among leaders in the description field. One result of that historic meeting was the AFB Press publication entitled "A Picture is Worth a Thousand Words for Blind and Visually

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In keeping with our goal to achieve equality of information access for people who are blind or visually impaired, this document is available, upon request, in the following accessible formats: IBM computer diskette, braille, cassette, and large print.

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Impaired Persons Too: An Introduction to Audiodescription", which discusses the history of description, and lists important organizations and phone numbers for people who are interested in more information. A copy of this publication is attached. (Attachment A)

AFB has become the center of social research activity around the issue of video description. While the amount of scientific study in this area has been very limited, AFB has been involved with three major studies. AFB brings extensive research experience to these studies. Corinne Kirchner, Ph.D., Director of Programs and Policy Research, is a leading expert on disability statistics, particularly on blindness and visual impairment. She was consultant to a study of the viewing habits and interests in science programming among people who are blind and visually impaired (Kuhn & Kirchner, 1992). She is the principal investigator for a Department of Education-funded study on description which will be described in detail below. The project director on that grant, Jaclyn Packer, Ph.D., has wide research experience in the area of disability, in addition to having a background and interest in media research. Emilie Schmeidler, Ph.D., was the project director on an NSF-funded study of description which Dr. Kirchner worked on as well. This study will be described below in detail. Dr Schmeidler has considerable experience using quantitative and qualitative research methods. Alan Dinsmore, Legislative Network Coordinator for AFB, has extensive knowledge of technology policy issues surrounding the issue of video description. Paul Schroeder, Team Leader of AFB's Access to Electronic Information Initiative is knowledgeable about all aspects of technology accessibility, and has been involved with the issue of video description for several years. Mr. Schroeder is also the technology liaison for the Department of Education-funded study of video description.

AFB has recently completed a study, "Adding Audio Description to Television Science Programs: Impact on Legally Blind Viewers," under a subcontract of National Science Foundation grant number ESI-9253447 to the WGBH Educational Foundation. The NSF-funded study evaluated psychological, social, and cognitive impacts on blind and visually impaired people of described video on television science programs. The participants reported strong preference for adding description to programs. Further, objective measures showed that participants who saw the described version of a program learned more about the content of the program than did those who saw the version without the added video description. The findings from the study are discussed in more detail in response to the questions posed in Paragraph 11. A copy of the report (Schmeidler & Kirchner, 1995) is attached (Attachment B). We have not attached the appendices to the report because of the large volume of pages; we will be happy to make these available if they are desired by the Commission.

Currently, AFB is conducting a study, funded by the Department of Education (grant number H026G40001) to determine who the actual and potential audiences for video description are, and to determine the range of methods of delivery that is potentially available. In order to address the issue of who the audience is, we have conducted two surveys: a telephone survey of a representative sample of visually impaired individuals throughout the country, and a written survey (in large print and braille) of a sample of people currently on Descriptive Video Services's (DVS) mailing list. In addition, we are conducting secondary analyses of large national databases which contain relevant social-demographic information about people who are blind or visually impaired. In order to address methods of delivery, we have subcontracted with the CPB/WGBH National Center for Accessible Media (NCAM) to study the issues and to prepare a report. We have received a draft report, and expect a final report by March 1996. The overall study is due to be finished October 1996, although some results will be available much sooner. For this study we have gathered a panel of advisors which

includes people with direct involvement in video description issues, engineering, telecommunications, media research, and disability statistics, including two advisors who are blind. Our technical experts panel consists of:

Barry Jay Cronin, Ph.D., Editor, Children and Education, News Corp/MCI Online Ventures, New York, NY. (Formerly, Executive Director, Media Access Technology, WGBH, Boston, MA)

William A. Gerrey, Electrical Engineer, The Smith-Kettlewell Eye Research Institute, San Francisco, CA

Janice Jones, Media Research Analyst, Corporation for Public Broadcasting, Washington, DC

Mitchell P. LaPlante, Ph.D., Director, Disability Statistics Rehabilitation Research and Training Center, University of California, San Francisco, CA

J. Elton Moore, Ph.D., Director, Rehabilitation, Research and Training Center on Blindness and Low Vision, Mississippi State University, Mississippi State, MS

Lawrence A. Scadden, Ph.D., Senior Program Director, Programs for Persons with Disabilities, National Science Foundation, Arlington, VA

James L. Fischer, Director, System Planning and Integration, Ameritech New Media Enterprises, Chicago, IL

We have referenced these two video description studies conducted by AFB in response to a number of specific questions or comments within this Notice of Inquiry. For simplicity, we will refer to the former study as the "NSF study", the latter study as the "DOE study", and the subcontract activities conducted by NCAM as the "NCAM Subcontract to the DOE study".

The Commission has posed a number of excellent questions regarding video description, including many areas which people in the field of visual impairment have been very interested in. In the process of answering some of these questions, we have made some suggestions as to how some of the Commission's questions might be reformulated in order to obtain better information. Note that this response is geared to the paragraph numbers of the Notice of Inquiry. Some of our responses are relevant to more than one paragraph, and we have cross-referenced where appropriate. Some of our remarks are based on actual research findings, and some are our opinions. We have been careful to indicate those places where we have specific research findings to support our remarks, and have included references where appropriate.

Paragraph #6.

Regarding the sentence "*the video description of a television program is transmitted via the Second Audio Program channel*": this sentence is misleading in that it identifies only one of several ways in which video description has, in fact, been transmitted. Narrative Television Network (NTN) uses "open description" for all its programming, in which the description is part of the program audio for

all audience members - it cannot be turned on and off. Another method that has been used is simultaneous transmission of the description audio over a Radio Reading Service. Recently, AudioVision Canada has been transmitting description audio separately from regular audio over a radio reading service available on most Canadian cable television FM systems, a technique which works best for those who are not interested in or able to see the program's video, since only one television channel can be accessed at a time. As a consequence of these other methods, it is not necessary that an audience member have access to SAP in order to receive any video description.

Still other techniques are theoretically possible, such as delivery of the description audio using the vertical blanking interval, or over telephone lines. These options, and many others, are addressed in the report from the NCAM subcontract to the DOE study, which we estimate will be available May 1996.

Paragraph #11.

"*Elaborate on the importance and nature of these benefits*".

The importance of video description to persons with visual impairments has been documented in two studies conducted by AFB. In telephone interviews conducted for the NSF study, the 111 legally blind participants reported that when they watch television they feel they generally miss information that is available to fully-sighted people. Majorities also reported that adding description makes programs more enjoyable, interesting, and informative, and that description does not make programs more confusing or boring. Having video description makes the participants more comfortable discussing programs with sighted friends. In a variety of attitudinal measures, the participants reported that they prefer described television programs to programs presented without description.

In addition, each participant watched two taped television programs, one with and the other without description and answered questions about the content of each program. As part of the balanced experimental design within the NSF study, all participants saw the same two programs in the same order; however, half saw only the first program with description while the other half saw only the second program with description. With both programs, participants who watched the described version learned more than did those who watched the non-described version.

As part of the DOE study on description, a qualitative analysis was conducted of 491 unsolicited telephone comments and 115 mail comments received by DVS from viewers over a four-year period. These comments were grouped into seven major categories, reflecting the types of benefits that viewers say they have received from the availability of described television. The categories are: 1) Gaining knowledge about the visual world; 2) Gaining a better understanding of televised materials; 3) Feeling independent; 4) Experiencing social connection; 5) Feeling equality with those who do not have visual impairments; 6) Relief of burden on sighted viewers with whom they watch; and 7) Experiencing enjoyment. These results, which showed that described video provides many psychosocial benefits to blind and visually impaired people, were presented at the American Psychological Association annual meeting on August 15, 1995 in New York City (Packer, 1995). A copy of the presentation is attached, which includes selected viewer quotes within each of the categories. (Attachment C)

Currently, as part of the DOE study, we are collecting telephone and written responses which solicit information on the difficulties visually impaired people have watching television and the benefits they obtain from video description. Although the final report is due September 1996, we estimate that the results from this part of the study will be available by July 1996.

"*Submit information regarding the number of individuals in this country who can benefit from these innovations, including the basis for such estimates.*"

Federal surveys

Although the number of blind or visually impaired individuals is often assessed via large national studies, the way these questions have been asked does not target those for whom video description might be beneficial. Questions asking whether a person has trouble seeing newsprint, or whether a person has any visual impairment does not specifically address whether or not he or she has trouble seeing television and therefore might benefit from description.

In particular, two recurring federal surveys provide national estimates of "visual impairment" that cannot be corrected to "normal" by ordinary eyeglasses or contact lenses. A widely-used broad measure comes from the annual Health Interview Survey of the National Center for Health Statistics (HIS/NCHS), a division of the Centers for Disease Control and Prevention.

In 1994, HIS' household-based sample estimated 8,601,000 people with "trouble seeing even with glasses, if used" (NCHS, 1995). Because that definition includes a sub-group who cannot see at all, or who have severe limitations of visual acuity and/or field of vision, it encompasses people for whom description is an essential or significant factor in providing access to TV. But for most people covered by that broad definition, the impact, if any, of their vision condition on their TV viewing varies from time to time, depending on the circumstances of their viewing, and/or characteristics of the program, and/or their visual condition at that time.

Those people would benefit from description to compensate for the visual barrier at some times, but at other times they would either get no benefit from description or only benefits that apply under certain conditions for fully sighted persons as well.

The main alternate estimate of visual impairment that comes from a federal survey of households which is periodically updated (but not annually) is found in the Bureau of the Census' Survey of Income and Program Participation (SIPP). In 1991-2, SIPP's broad measure yielded an estimate of nearly 10 million people who reported "difficulty seeing the words and letters in ordinary newspaper print, even when wearing glasses or contact lenses (if the person usually wears them)" (McNeil, 1993). Within that group, a subgroup of 1.6 million people reported that they were "not able to see the words and letters at all".

In addition to the household-based sample, people in long-term care institutions, mainly nursing homes, include many who have severe visual impairment. Television and video viewing are significant activities for the institutionalized population, but the scope of benefit that description offers them

must be assessed in light of the inhibiting factors of illness or other impairments -- notably cognitive or hearing -- that may limit that benefit.

From the 1985 NCHS National Nursing Home Survey (NNHS), the latest available, we estimate that 338,200 institutionalized persons who are blind or have "partial or severe visual impairment" (NCHS, 1989) could benefit from description, though, as with any study, some of its methods of identifying and defining visual impairments are open to question. (The NNHS conducted in 1995 is not ready to report results.)

To summarize, for the U.S. in the early 1990s, the broad estimates we have identified range from 8.9 million to 10.3 million persons who have a visual disability and presumably could benefit from description.

Survey Wording

We have learned, through careful pre-testing of the wording for the survey of a nationally representative sample of visually impaired persons conducted for the DOE study, that one cannot simply ask if a person has trouble watching television. We found that many blind and visually impaired people have learned to accommodate their television watching in a way that they may not regard as "trouble watching" (e.g., selecting certain types of programming that are less visual, such as talk shows, so that any difficulty they may have watching is not as salient.) In addition, those who do not watch television at all, for whatever reason, also report they "do not have trouble" watching television because it is something they never do.

We believe that the set of questions we asked in our screening portion of the study gets directly at the question of "television disability". After considerable testing, we asked three questions in the following order:

1) Do you have trouble seeing, even when wearing glasses or contacts?

2) Do you have trouble seeing, or have any visual condition, that would, even when wearing glasses or contacts, affect the ability to see details on a tv screen from several feet away?

3) Do you have trouble seeing, or a visual condition, that would, even when wearing glasses or contacts, cause any other difficulty watching or enjoying television?

We used as our target sample for in-depth interviews those people who said "yes" to either the second or third question, but we will also have some statistics on those who answered "yes" only to the general vision question, and not to the television questions. Although we've used the words "trouble seeing" in these questions, the middle question relating to television has been placed within an unambiguous context, and the third question has been designed to include others for whom "detail" is not the paramount problem (e.g., those with tunnel vision). The results of this study will provide an estimate of the number of people who might benefit from video description because of their vision, as well as detailed statistics on related demographics including age, race, gender, and income. In addition, we will have detailed analyses on individuals' preferences for video description of different types of television shows. These distinctions may be helpful for later economic analysis, since this

information can help marketers understand who the target audience might be for particular programming.

"*Does the Census Bureau use a narrow definition of vision . . . such that there may be an additional number . . . who can benefit . . .?*"

Before responding to the question as stated, a clarification is needed about the reference to "Census Bureau figures" and the citation in footnote 31. The data come from a Census Bureau publication [Statistical Abstract of the United States, 114th ed., 1994]; however, that publication compiles tables from a great variety of sources. The table on page 140, which reports over 8 million individuals with visual impairment, comes from the NCHS-HIS (not the Census Bureau), a source discussed above, but refers to the 1992 rather than 1994 results. While the NCHS is a government agency, it is not part of the Census. The most relevant Census Bureau survey is the Survey on Income and Program Participation (SIPP) which estimates almost 10 million individuals with vision impairments. Both the NCHS and SIPP are targeted to definitions of visual impairment based on reading.

To explain, we illustrate using the Census Bureau's SIPP, but the points apply to HIS as well: SIPP encompasses two levels of severity of limitation in the specific function of seeing detail, using the important example of print. Neither SIPP nor HIS directly focuses on limitations in viewing TV or similar tasks, which pose both similar and different visual demands from those involved in use of print.

With that understanding, we can however address whether the measures used both in HIS and in the Census Bureau's relevant survey, SIPP, are too narrow. As our earlier discussion implies, we do not conclude that the broader measures (including HIS' 8-plus million) are too narrow, except for excluding persons in long-term institutions; however, the measures are not adequately targeted.

The most reliable and comprehensive count of persons who can benefit from audio description would require an appropriately targeted and extensive set of questions, in view of the complex ways that vision may be limited, and in view of the varying conditions under which TV and related viewing may occur. Nevertheless, we do not expect that Census can or should incorporate that complexity in its surveys; to do so would cause undue "respondent burden" in the context of studies designed to meet an array of socioeconomic policy needs (health policy needs in the case of NCHS' studies).

Certainly, special studies such as we have undertaken and hope to conduct in the future, will permit more precise estimates of vision conditions as well as other physical and/or cognitive conditions that would comprise the number of people with disabilities who can benefit from video description.

"*Are the number of persons with hearing and vision disabilities expected to grow . . .?*"

As the question itself insightfully points out, there is a clear trend of the aging of the population, and that is likely to increase the population with severe visual impairments, especially as the "baby boomers" move into their 60s and beyond. Even at younger ages, including infants and children, the number of persons with visual impairments is expected to increase due to the continuing effectiveness of medical sciences in extending the lives of persons with severe injuries (e.g., auto accidents), or low birth weight, or disease (e.g., blindness due to advanced AIDS) -- but those increments will be less

dramatic than the numbers associated with aging. Unfortunately, again, systematic studies that can track these influences have not been done and are tricky to design. Of course, medical sciences have effectively found some cures or preventive measures for certain causes of blindness, but the net effect appears to be a projected increase.

"*What proportion . . . require . . . video description to enjoy television programming, and what proportion currently utilize these technologies*?"

We believe the word "require" here is somewhat misleading, since "requiring" description implies that visually impaired people cannot watch television at all without it. Description allows people with visual impairments equal access to information from all televised programs, whereas without it, the information one can get from a program is more or less limited, depending on the genre and individual characteristics of the show and characteristics of the viewer. Shows that are almost entirely talk would convey a great deal of information to blind or visually impaired persons, while shows that rely on presenting a lot of information visually would convey very little information to them.

Since the inception of tv, watching television has been engaged in by blind and visually impaired persons (Josephson, 1961, Berkowitz et al, 1979, Kirchner et al, 1992), although many of them have been missing significant portions of shows, and many others have chosen not to watch certain types of programming altogether because of the difficulty of meaningful access.

The need by visually impaired people for description varies widely, depending on the person's severity or type of impairment. There may be a large number of people who need description only under some circumstances and to a limited degree, while a smaller group would benefit from extensive description. For example, preliminary data from the national telephone survey found a large number of people who have trouble seeing only the titles and credits of television programs, while others have tremendous difficulty following the meaning or plot of television shows because of their limited vision or blindness. It may be that the former would benefit from titles being read aloud, while the latter would benefit from full description. Once our analysis is completed, our survey results will yield much additional information on this topic.

The proportion of the visually impaired population who currently utilize video description will be obtained from analyses of the national telephone study. It is important to note, however, that video description is not available everywhere, and in those areas where it is available it requires either access via SAP (generally available only on newer televisions and VCRs) or via particular cable television stations. Moreover, it is important to keep in mind that persons with visual impairment, on average, have lower incomes than those without such impairments, and may be less likely to have either newer television equipment or cable television connections. In addition, the numbers who currently utilize video description will also be affected by the very limited programming that is currently described, and the limited audience that cable stations and public television stations attract.

"*We seek comment on the number of children . . . that can benefit . . . and the nature of these benefits.*"

The strong association of vision impairment with older age foretells that the number of children with that condition is a relatively small part of the total. If we use the broad HIS definition for 1993, close

to 500,000 are estimated in the age group under 18 years old. It is a researchable question whether the impact of visual impairment is more or less severe in the younger as compared to older persons.

Children who are visually impaired get benefits similar to those experienced by adults, but some of these benefits may be of particular importance to children and adolescents, for example, access to a similar base of cultural knowledge which allows them to feel more socially comfortable with other children.

Educational television shows are increasingly being used as a learning tool in the classroom, and the addition of description will allow those children with visual impairments to have access to the same information as others. In addition to the benefits of video description for television shows, description can also benefit classroom instruction through the use of described video tapes and described educational CD-ROMs. While we realize the Commission is mostly interested in information on description for television programming, we feel that issues related to classroom instruction are very relevant to this area, and AFB would be happy to elaborate further on these comments if this is desired by the Commission.

Paragraph #12

"*Video description may similarly benefit individuals with learning or cognitive disabilities . . . may provide a convenient feature for all viewers . . . We seek comment on the nature and extent of each of these potential benefits, including . . . the number of individuals who would utilize . . . video description for these purposes.*"

The analysis we conducted of unsolicited comments shared with DVS from consumers revealed a number of comments from people who said that description was beneficial for people with cognitive impairments because it helped them to devote complete attention to the shows, or to have better understanding of the programs. Similar comments regarding the benefits to those with cognitive and learning disabilities were included in responses to the mail survey for the DOE study completed by current DVS viewers.

The analysis of unsolicited comments to DVS, and the completed survey by DVS viewers also revealed a number of comments regarding the benefits of description to people who do not have vision or cognitive impairments. Sighted people tended to enjoy description because it helped them to notice some of the visual elements of programs that they would not have noticed without description. In addition, those who often watch television with visually impaired family members or friends enjoy television shows with description because they do not have to attempt to explain visual elements to their viewing partners while trying to watch and enjoy the program themselves.

It is clear that, in some circumstances, sighted people find television without video to be desirable, as evidenced by the large number of people who purchase tv band radios. (The Electronics Industry Foundation may have statistics on the number of these devices sold in the United States.) People find these devices useful to listen to while they are exercising, performing housework, driving, or working in offices. It is likely that people would get more from the television programs they listen to (without watching) if the programs included added descriptions.

Additional evidence that many sighted people would enjoy description is provided by the play-by-plays that are ubiquitous in sportscasting. Although the action of a sporting event is televised, and available visually to those who are sighted, most games use announcers who explain what people are seeing. This type of description is often also used in television presentations of activities such as ice skating, or dancing. These examples clearly illustrate the desire for some types of description even among the majority population without visual impairments.

Universal design should be the goal for methods of delivering television programming. Generally, when something is made accessible to persons with a particular disability, it incidentally becomes more convenient or accessible to others as well. Therefore, the goal should be to develop methods of programming and delivery that are accessible to people with all types of disabilities, which will allow any added options to be used also by those who find them useful or convenient, including people without disabilities and those with different disabilities than the one for which the modification was originally designed.

Paragraph #14

"*Other delivery systems*"

Detailed information on alternate delivery systems for video description is covered in the report from the NCAM subcontract to the DOE study; we estimate that the report will be available May 1996.

Paragraph #15

"*Video Description*"

There appears to be some outdated information in this paragraph, which we are confident will be updated by the respective description services when they provide their response to this Notice of Inquiry. For example, NTN has expanded its programming to include described television shows in addition to movies, and DVS is now reaching a larger number of U.S. television households.

Paragraph #16

"*To what extent are live programs video described*?"

To the best of our knowledge, DVS's live description of the 1993 Presidential Inauguration was the only occasion of live description on television. However, the widespread use of description in live theater presentations, and occasional use of in-person description of public events (such as parades, or film presentations), are testaments to the ease with which this can be accomplished. The popularity of spontaneous description is evidence that consumers are satisfied with the quality, despite the fact that it must, by definition, allow for less contemplation and preparation than description for a recorded program. We have gathered a lot of information through formal interviews and informal discussions on the types of activities that are being described live, and would be happy to elaborate on this if the Commission is interested in more information.

"We also request comment on the estimated number of U.S. households . . . capable of receiving the SAP channel, and thus are able to receive video description . . . "

As we stated in Paragraph 6, it is misleading to imply that only households which are capable of receiving SAP can receive video description.

We have been unable to ascertain the number of households that own SAP-equipped television sets; the Electronics Industry Foundation has statistics on the number of households that own color television sets with stereo (52% as of January 1996), but does not have numbers regarding how many are SAP-equipped, or how many stereo VCRs are sold. One approach to answering this question might be to contact the manufacturers of stereo televisions sold in the U.S., and attempt to ascertain the number of SAP-equipped sets they have sold. One drawback to this approach, however, is the fact that there may be multiple SAP-equipped sets in the same household; therefore the number sold will not directly represent the number of households capable of getting SAP.

AFB's national telephone survey for the DOE study included questions on whether the households own a stereo television set or VCR, and whether the household can access the SAP channel through a television or VCR. The numbers responding affirmatively to these questions will likely be an underestimate; many households have access to SAP but do not know it, because they haven't been aware of opportunities to make use of it.

Paragraph #17

"The impact of digital television . . . on video description."

As mentioned previously (see Paragraph 14) detailed information on delivery systems for video description is covered in the report from the NCAM subcontract to the DOE study; in particular, there is a section in that report that addresses the use of Advanced Television for video description.

Paragraph #18

"We ask parties to provide information on the current costs of providing . . . video description . . . Do the rates vary by . . . other factors?"

There is some evidence that rates vary by genre of show. Programming that contains a lot of visual information and little dialogue will obviously take longer to describe than programming with a lot of dialogue, and would therefore cost more to produce. For example, it is likely that a talk show or news show would be less expensive to describe than would a drama or a nature documentary.

It is also likely that description of live events will cost less than recorded programming. Although live events may require a larger on-site crew, and preparation time by the narrator, this type of description would use only one person to do both the description and the narration, while recorded programming usually requires one person to write the description and another to read the narration. Writing description for recorded programs generally requires the writer to go over sequences a number of times, and the narrators often have to use several "takes" to get the timing of the lines perfected. When describing live events, one "take" is all that is available. The quality of live narration is likely

to be lower than that which is painstakingly prepared and recorded; however, in the area of live events, it appears that people prefer efforts at accessibility even if the quality is somewhat compromised.

There are many other factors that may add to cost. Clearly, cost is related to quality. One might produce less than "adequate" description for a show at lower cost than description that is carefully honed to convey as much important information as possible. The critical issue here is quality versus access. A better quality product which will increase understanding, learning, and enjoyment may cost more. The issue of quality versus access can be resolved through research addressing the issue of standards. Such research would explore various aspects of description to determine which are most critical to include in order to achieve the desired purposes of description, and would determine what would be considered "adequate" description. The qualitative data gathered from the mail survey of DVS viewers may give us a general idea of which features of description are perceived as important, and by whom; however, these issues need to be explored in greater depth in research specifically designed to answer this question.

Paragraph #20

"*We solicit comment on proposals regarding new funding sources.*"

While funding from the sources cited has been a vital ingredient in moving video description from an emerging technology into the marketplace, reliance on these sources alone will not effectively serve all of the segments of the television broadcast market regularly used by people who are blind or visually impaired. In order to reach the broadest segment of these users we recommend that spectrum auction revenues be considered as a primary source of funding.

Paragraph #21

"*Provide information on the current and projected future levels of federal funding.*"

In addition to the funds DVS has received from the Department of Education, there have been additional funds received by DVS from the Corporation for Public Broadcasting, the National Science Foundation, and the National Endowment for the Arts, which have been important in providing description. In addition, the National Endowment for the Arts describes some of its own informational videos, and recently co-sponsored a national meeting of people involved in description, including those working in education, media, and live theater. Some of the federally-funded museums, such as the Smithsonian's Air and Space Museum, pay to have their movies described and available to their patrons. The latter may be particularly relevant to the issues the Commission is interested in, because these movies might conceivably be shown on television at some point, and the description would already be recorded and available.

Paragraph #24

"*We solicit comment on the role market-based incentives can play in fostering this service.*"

We believe that video description providers should make use of consumer boards in their decision-making. Consumers can provide valuable feedback to producers on the quality of their programming. Clearly, the more that description suits the needs and desires of consumers, the more viewers there will be, leading to greater incentives to describe shows. A larger audience translates into less cost per person for the provision of description, and a larger audience with which to sell advertising time at greater cost. There is every reason to expect that, as with other types of programming, quality description will lead to gains for the audience, the producers, and the advertisers.

Both DVS and NTN have consumer panels, and maintain correspondence files and mailing lists of viewers who have written to them. DVS also provides an 800-number for consumer feedback, and also uses the line to provide information on what programming is available.
There is clearly a market for video description, and existing description services have been working with this market. Although the market of people who are blind or visually impaired is a relatively small one, once description is made more widely available, it will "find its audience" (e.g., the number of sighted people who find that description helps them to listen to audio only, and the number of people with learning or cognitive impairments who can benefit from description will discover video description and the audience will increase).

The national telephone survey, and the mail survey of DVS viewers we have conducted for the DOE study, will be the first market studies of this group of consumers. Having pioneered survey questioning in this arena, we have learned a great deal to guide future studies. The experience we've gained in terms of sample design, questionnaire design, and analytic interpretation from these ground-breaking surveys will benefit future market research on description.

Paragraph #26

"*We request comment on the general form any mandatory closed captioning or video description requirements should take if they are deemed necessary.*"

We believe that the 1996 amendments to the Communications Act providing for video programming accessibility via closed captioning (Video Programming Accessibility, Section 713(3)(E) be extended to video description. This standard uses the undue burden test which comes directly from the Americans With Disabilities Act. We believe that this test can provide a basis for a general form of mandatory video description requirements.

Paragraph #27

"*One issue we seek comment on is which entities should be subject to any mandatory requirements.*"

We recommend that both providers and owners/producers be subject to such mandatory requirements. The Americans with Disabilities Act, Title III Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities, 28 CFR 36.102-36.104 provides such a model for allocating responsibility using the example of landlord/tenant agreements. Title III of the ADA provides that both the landlord and the tenant have full responsibility for complying with requirements applicable to a place of public accommodation. Therefore, as in the case of Title III of

the ADA, it is our recommendation that both program owner and network remain fully liable for compliance.

Paragraph #29

"*We generally seek comment on the appropriate balance that should be struck between providing access to Americans with disabilities through closed captioning and video description and the costs and burdens imposed by mandatory requirements.*"

The Communications Amendments as enacted provide an "undue burden" standard the components of which are outlined in Section 713 (3)(E) of the 1996 amendments to the Communications Act. We recommend that the Commission in any regulatory proceeding on video description cite this standard. We do not believe any entity should be categorically exempted. We do believe that the combination of the standards outlined in the undue burden test, plus an application of timetables as we have suggested in Paragraph 34, can provide a balance between the need for video description and the ability of entities to provide that description.

Paragraph #30

"*In developing criteria for granting exemptions . . . we seek comment on the type of formulas that could be used, the nature of a case-by-case approach, and the tradeoffs between these two alternatives.*"

We urge the Commission to reject this approach. In fact the test which provides all parties with the most certain criteria is that outlined by the "undue burden" standard established in the video accessibility section of the Communications amendments. The defense for noncompliance should be the same as that available for captioning since video description is also a service.

Paragraph #31

"*For example, is it necessary to require video description of a sporting event that already provides a play-by-play commentary or that is covered by a radio broadcast?*"

Sporting events that include play-by-play commentaries (via television) do not assume that the person viewing the event cannot actually see it. The idea of play-by-plays is to elaborate on what the people are seeing, so they can interpret it better. Since sight is assumed, there may be times where play-by-plays may be extremely frustrating for a visually impaired person, for example, times when one hears the crowd go wild, and the announcer remarks with astonishment "Wow, did you see that?" While play-by-plays do not satisfy all the requirements of described video, it would take only a little added effort to make them fully accessible for people with visual impairments. This would be a good example of the benefits of universal design, where the enhanced play-by-play can be open-described because it would not interfere with sighted people's enjoyment of the show as they are used to hearing such description for sporting events, while visually impaired persons would benefit from the more detailed description. Similarly, there are cooking shows which are broadcast that have a narrator discussing what the chef is doing so that viewers have a broader understanding of what is being done.

It would require only a little more effort to make these shows fully accessible for visually impaired people, while the sighted audience would notice little difference from before.

Regarding the issue of radio broadcasts, these are sufficient only if one assumes that blind and visually impaired people are experiencing the programming in isolation. In the NSF study, only one-fifth of the participants reported that they always watch television alone. In actual fact, people who are visually impaired are likely to be watching, or be interested in watching, these shows along with sighted family members and friends and therefore would not wish to retreat to another room to listen to the radio, or to sit in the same room using an earphone listening to a different announcer over the radio. Such behaviors can be isolating rather than inclusive, inclusion being the goal of video description.

Priorities for video description are discussed further under Paragraph 34, below.

Paragraph #32

"*We seek comment on whether there is any need for technical or quality standards to ensure that video descriptions are accessible and understandable to individuals with vision disabilities. Would laboratory or field testing be necessary to set any such standards . . .*?"

Standards for video description are necessary, to ensure that description is successfully providing access to television programming. Standards can be developed first by gathering information on which features consumers feel are important, and then by assessing various combinations of features through experimental testing. Paragraph 18, above, also discusses the issue of the importance of particular features in video description.

An important point to note is that a good way to assure the level of quality of description is to have more video description providers for a larger number of shows, creating a greater level of competition.

"*To what extent do other ancillary uses compete with video description now and in the future for use of the SAP channel*?"

The SAP channel is sometimes used for bilingual programming. We understand that in some areas of the country where there is a large percentage of Spanish-speaking people, described PBS programs sometimes have been pre-empted on the SAP channel for Spanish translations. One solution to this problem that some local stations have used is to broadcast the same show twice, at different times of the day, one time in Spanish and one time with video description. Unfortunately, the re-broadcasts may occur at inconvenient times, such as the middle of the night. Given a choice between broadcasting to a visually impaired audience versus a much larger Spanish-speaking audience, it is likely that the broadcasting industry will choose the larger market share. Therefore, it is imperative that other more equitable solutions be put in place.

"*What impact will . . . digital technology have on the transmission of video description*?"

As stated in Paragraph 17, the report from the NCAM subcontract to the DOE study contains information related to digital technology and video description.

Paragraph #34

"*We seek comment on appropriate timetables for implementing any . . . requirements that may be imposed*".

It is our informed opinion that some types of programming are more beneficial to describe than others. Our national telephone survey and the mail survey of DVS viewers will shortly yield much data from consumers on exactly what types of programs they would most like to see described. We will then be able to describe not only how consumers prioritize genres of programming, but how various demographic characteristics influence their choices.

Clearly, access to critical information is the first step in deciding which programming takes highest priority. Here we can make the recommendation that emergency announcements receive an immediate priority. Emergency announcements often are not read, but are only shown in print on screen while another show is being shown simultaneously. If the announcement is important enough to be transmitted, then it should also be made accessible to persons who cannot comprehend it because they are blind or visually impaired, or have certain cognitive disabilities (or have left the room, but can still hear the television). Several respondents to the written survey of DVS viewers mentioned emergency announcements as an important area for description. One respondent said:

> "When storm warnings are run across the screen, I can't read them and almost panic, especially when I am alone. The beep goes on and you know something is happening but you don't know what. It's frustrating!"

Programming that contains a large amount of dialogue (such as talk shows or news programs) is of less priority than that which conveys more of its vital information visually, such as documentaries or dramas. News programs are not as high a priority for video description as they are for closed captioning. While we do think that visually impaired people would benefit from description of news shows, we feel that it would be lower priority than description of other types of programming, particularly formal and informal educational shows. However, it is important to note that in an unpublished study conducted by William Torrey during a 1991 fellowship at the Gannett Foundation Media Center (currently The Freedom Forum Media Studies Center) at Columbia University, he found that almost half of blind or severely visually impaired respondents to a survey said that they would be very interested in video description of news programming (Torrey, 1991).

Another category to consider is public service announcements, as these typically address pressing social issues about which people need to be made aware.

We do recommend that the Commission examine a phase-in process with at least two sets of rulemakings. The first could require that by a specified date newly produced or exhibited prime time network and premium cable be video described. Within a one year period after the first date, we

suggest that the Commission offer a rule for comment on developing a schedule for prioritizing other programming including a longer phase-in for previously produced programming.

Paragraph #35

"*We request comment on ways to promote competition and innovation in the provision of video description. Are there non-regulatory steps that could be taken to foster the growth of these services*?"

There are non-regulatory steps which can be taken. There is an important prerequisite. It is necessary for the Commission to make it clear that video description is required subject to an undue burden test. Effective ground rules known to all market participants are one of the most effective stimulants to innovation and competition. With such ground rules in place it is not necessary to specifically regulate on each issue involving competition and innovation. One good example of this approach is Section 508 "Electronic and Information Technology Accessibility Guidelines" of the Rehabilitation Act of 1973, as amended. These guidelines set up a consultation arrangement between the General Services Administration, the electronics and information technology industry, and the Interagency Council on Accessible Technology to establish guidelines designed to ensure that individuals with disabilities have the ability to produce information and data, and have access to information and data comparable to that access afforded individuals who are not disabled. This approach puts down a clear ground rule but does provide the flexibility which would not be inherent in requiring a regulatory proceeding. The approach does not work perfectly. However, it is being made clearer everyday that the federal customer expects a certain performance from its vendors and that has translated to innovation and competition based on ability to perform to the Section 508 guidelines.

Paragraph #36

"*We seek comment on the scope of the Commission's authority under current law to adopt regulations imposing video description requirements . . .*"

The recently enacted amendments to the Communications Act of 1934 provide express authority to the Commission to adopt regulations to promote the accessibility of video programming to persons with visual disabilities after conducting an inquiry into video description. We take this opportunity to commend the Commission for issuing this Notice of Inquiry. We hope that it will provide a basis for the Commission to commence the regulatory process.

Respectfully Submitted,

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ATTACHMENT B

ADDING AUDIO DESCRIPTION TO TELEVISION SCIENCE PROGRAMS: IMPACT ON LEGALLY BLIND VIEWERS

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RESEARCH OBJECTIVES

This study evaluates the impact of described television science programs on legally blind adults. To do so, it assesses two types of impacts:

a) Psychological and social impacts--measured by interest in and satisfaction with described video in TV science programs, and by ease in discussing the programs with others; and

b) Cognitive impacts--measured by comprehension and recall of the factual information presented in two specific TV science programs.

Including description in television science programs promotes two social policy objectives. The first objective, expressed in the Americans with Disabilities Act, is to ensure that people with disabilities have the same access to information and opportunities that people without disabilities do. The second objective is to advance scientific literacy in the United States by increasing access to and thus comprehension of the program content, and generally to encourage viewers to pursue scientific interests.

Verbal descriptions provide crucial information to blind viewers. Most, if not all, science programs convey some information only visually. Incomplete access to information may make viewing frustrating and otherwise unsatisfactory for people who are blind or severely visually impaired. Because television viewing is voluntary, if viewing is not satisfying, people may be discouraged from watching science programs.

Audio description of information that is presented visually provides blind people with more access to the programs' scientific content. Better access to program content encourages blind viewers to talk over the program with others. Exposure to scientific concepts and information may stimulate or reinforce viewers' interest and thus their confidence in their ability to understand and apply scientific information in their daily lives through work, continuing education, hobbies, recreational activities, and community involvement.

METHODS

STUDY DESIGN

Consumer Input

The research design of this evaluation emphasizes consultation with consumers. AFB researchers convened two focus groups specifically to discuss two major aspects of the research: (a) the issues to be explored in the evaluation and (b) the procedures to be used in carrying it out. The first focus group consisted of people who were familiar with description and were current or recent members of the DVS (Descriptive Video Service®) Consumer Advisory Council. The second focus group consisted of consumers in New York City who varied greatly in their familiarity, if any, with description, as well as in the degree to which they supported the concept.

In addition, all the consumers who participated in pre-testing the instruments were debriefed about the study and the way the portion they had pre-tested fit into the larger plan for the study. Those who participated in the pre-tests individually were asked whether any questions were unclear, and also about their reactions to the procedure. (We were especially concerned that nothing in the process--such as having too many factual questions participants could not answer--would make them feel diminished.) They were told we would be using the procedure with many more people and, on that basis, asked to suggest improvements. The others, who took part in the pre-test as members of small groups, spent one-half hour to one hour after the pre-test as focus groups in which they discussed the experience and made suggestions.

As a result of this consumer input, we made significant changes in the study design as well as a myriad of small changes in procedures and wording. Originally, the study design called for participants to watch one complete program from each of two series, *The New Explorers* and *Nature*, the former lasting one-half hour; the latter, a full hour. The experimental treatment was to have contrasted two groups of participants--the experimental treatment groups would see both programs with description, the control groups would see both programs without description. However, some members of the first consumer focus group expressed strong objections to asking blind consumers to sit through one-and-one-half hours of television with no description; they said the answers from such participants would be affected more by their boredom than by the content of the program.

Research Design

In response to these concerns, we made two major changes in the experimental design. First, we limited the programs to one half-hour each by showing only the first half of the program from the *Nature* series. Second, we limited the amount of television without description for any participant by showing each person one program with description and the other without. This means that each person is considered an experimental subject for the

program s/he watched with description, and a control subject for the program s/he watched without description.

Finally, in order to make sure our cognitive measures emphasized the parts of the programs that were most significant scientifically, we consulted a specialist in science education. Dr. Edward Cutler, a marine biologist and former college professor who is blind, played a crucial role in shaping our assessment of the science learning from the programs. He helped select the program from each series which we used and also identified the central scientific concepts and facts in each program and formulated an array of potential questions from which we designed the cognitive measures.

The research design is based on two interviews conducted over the telephone and two collected during the television viewing sessions. Four sets of data were collected from each participant. The initial interview included questions about vision, television viewing, interest in science and TV science programs, and personal background. At the viewing session, the participants were shown the two television programs--one described, the other not described; after each program, each participant individually answered factual questions about the program and questions about his/her reactions to the program. In the follow-up telephone interview, in addition to a small number of factual questions from the two programs, the participant was asked about television viewing at home and then more specifically about audio description. These questionnaires, along with the instructions for the interviewers, are included in Appendix C.

Sample Design and Procedure

Participants were recruited through public and private organizations oriented to blind or visually-impaired clients, employees, or members in the Boston area (see Appendix A for a brief description of each organization). These include the Bay State Council of the Blind (the Massachusetts chapter of the American Council of the Blind), Boston Aid to the Blind, Carroll Center for the Blind, Ferguson Industries for the Blind, the Cambridge (MA) Chapter of the National Federation of the Blind, and the Talking Information Center. In addition, notices were placed on dial-in telephone tape information lines including the Massachusetts Commission for the Blind, the Talking Information Center, and the VISION Foundation. Notices were also posted on-line for the Massachusetts Commission for the Blind and on Vibug, a Massachusetts-based disability on-line service. The Talking Information Center, the Radio Reading Service in Massachusetts, carried a public service announcement to recruit participants. Three publications also included a notice: Bay Lines (a Bay State Council publication), and two newsletters sent to alumni of the Carroll Center for the Blind.

Initially, project staff developed a letter on AFB letterhead and a return postcard (see Appendix B); these were supplied to Bay State Council, National Federation of the Blind-Cambridge, and Talking Information Center for distribution to their mailing lists. The letter explained the project briefly: that it was funded by the National Science Foundation, that the research involved coming to WGBH for a three-hour session to watch television programs about science, and that all participants needed to be legally blind adults. The letter deliberately made

no mention of audio description. The letter invited those interested to return the postcard, to call the AFB toll-free number, or to call a local number at WGBH that is not associated with DVS. Initially, a total of 78 people indicated interest in participating or desired more information. In order to recruit more potential participants, a message similar to the original letter was placed on the telephone information lines and on-line. In addition, Boston Aid to the Blind, the Carroll Center for the Blind, and Ferguson Industries for the Blind were contacted about the study. All three agreed to tell clients about the study and to make their facilities available for an on-site program-viewing session. The 173 people who responded to any of these communications were considered to be potential participants.

WGBH staff attempted to call all the potential respondents to ascertain whether they were eligible to participate and, if so, to administer the first questionnaire and to determine when the person would be able to attend the viewing session. A total of 143 people completed this first interview. The WGBH staff then called each of the potential participants to invite them to attend a viewing session. Viewing sessions, with transportation arranged to and from the site, drew 111 people. Approximately one or two months after the viewing sessions, each participant was called for a follow-up telephone interview. All 111 people who attended any of the 16 viewing sessions took part in the follow-up interview.

Every effort was made to reach anyone who had indicated an interest in the study, including up to 9 calls back. However, 30 of the 173 who expressed an initial interest did not complete the first interview (14 people could not be contacted; 11 were deemed ineligible because of serious medical problems, not being legally blind, or having close professional or personal ties with DVS; 3 were uninterested in continuing with the study; 2 declined for other reasons). Among the 143 who did complete the first interview, 33 did not attend a viewing session (14 could not be scheduled for a session or did not attend a session for which they were scheduled, 8 declined to participate for personal or medical reasons, 5 lived too far away, and 6 who were scheduled to participate at a cooperating organization were absent the day the session took place.)

The length of time between the initial contact, the first interview, the viewing session, and the follow-up interview varied considerably because we continued to recruit additional potential participants until we were certain we would have a minimum of 100 people for the viewing sessions.

Viewing Session Experimental Conditions

The experimental component of this study took place during the viewing session which lasted three hours. Four to 10 participants attended each viewing session. Eleven viewing sessions were held at WGBH. The initial session also served as a training; the following 10 sessions were administered by WGBH staff and volunteers. Viewing sessions were scheduled on different days and at different times of day to accommodate the schedules of as many participants as possible. An additional five sessions were held at the cooperating organizations--Boston Aid to the Blind, The Carroll Center, and Ferguson Industries for the Blind--to